

Globe: A Journal of Language, Culture and Communication, 10: 67-81 (2020)

Using SFL as a powerful tool for analyzing multimodal texts from vocational education

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Abstract: Young students in the vocational education and training (VET) programs in Denmark often struggle with reading and writing and face multifarious literacy challenges. At the same time, the texts from these education programs are often challenging and different from the school texts students know from their primary education with regard to multimodality. To highlight these challenges, better ways of analyzing the texts used in the vocational programs are needed, along with, in the long term, the development of more effective instructions for the students of these programs. Systemic Functional Linguistics (SFL) is a complex linguistic theory that offers immense potential for analyzing the details in texts. Using Martin and Rose's (2011) model and focusing on information distribution, the logico-semantic relation, boundaries, and identification, this article analyzes a multimodal text from a vocational education program to demonstrate its complexity. Furthermore, the challenges this complexity presents to poor readers' understanding of the different elements of the text, the role these elements play, and the sender-receiver relationship are demonstrated. The following discussion of the use of this complex theory as a basis for teaching literacy strategies to students in either primary education or vocational training programs will be of interest to literacy researchers in other countries as well.

Keywords: Systemic functional linguistics, multimodal texts, vocational education, literacy

1. Introduction

In Denmark, there is a growing need for people with manual skills in the vocational area because students are increasingly applying to the more theoretical high school education programs (called "gymnasium" in Denmark) rather than vocational education and training programs (called EUD in Denmark). In recent years, this has become a significant problem; thus, the government has set a political goal for 25% of a year group to choose vocational education and training (VET) in 2020, rising to 30% in 2025 (Undervisningsministeriet [Ministry of Education] 2018b). The latest number from 2019 shows that 20.1% of the students applied to VET after their primary education, thus indicating the large gap between reality and the political goals (Undervisningsministeriet [Ministry of Education] 2017). In addition, the drop-out rate among students in VET in 2017 was 27%, and that rate was higher among students with low reading competencies (Danmarks Statistik [National Statistics] 2018; Undervisningsministeriet [Ministry of Education] 2018a). Reports show that, although the literacy competency of students in the VET system is not the most important factor for either applying to or staying in a vocational education and training program, it plays an important role (Allerup, Torre & Hetmar 2012; Buch 2015; Jørgensen 2011).

Unlike many other countries, there is no specific requirement around schooling in Denmark; instead, all children must receive teaching for at least 10 years. Most students attend primary education, grades 0 through 9 (primary education thus covers both primary and lower secondary school), in a public or private school (less than 500 children are being home schooled thus not attending school but receiving teaching), and grade 10 is voluntary (Børne- og Undervisningsministeriet [Ministry of Children and Education] 2018). After 10 years of schooling, there is no more obligatory education in Denmark, resulting in around 15% of children who never have more than a primary education (Peker 2006). Among these, a majority does not pass the primary education tests (Statsrevisorerne [State Auditors] 2019).

After completing their primary education, students can choose to attend either high school (abbreviated Stx, Htx, Hhx or Hf) or a vocational education and training program (VET). The VET

schools offer both a basic and a main course and are divided into skill areas such as “Technology, building and transportation” or “Office and business” (Børne- og undervisningsministeriet [Ministry of Children and Education] 2019). In each of these areas, there are several vocational directions students can take, such as carpenter or shop assistant. The VET programs are not located in the same schools or buildings as the high schools, as they are considered two different educational paths. Nor are the curriculum or the literacy expectations considered the same. Since 2012, students in the VET schools have been able to follow a five-year program, leading to both a vocational education diploma as well as a high school diploma called Eux, which is conducted in a VET school (Uddannelsesguiden [Education guide] 2019).

Students of vocational training programs are, on average, weaker readers and face a range of literacy challenges, including dyslexia or decoding challenges, reading comprehension challenges, and a general lack of literacy competencies in a broader perspective, i.e., understanding text, using text, or simply avoiding reading (Egelund 2008; Illum, Lützen & Spangenberg 2017; Kabel, Gissel, Carlsen & EMU 2009). In addition, students accepted into vocational education programs are among the weaker readers in primary education (Illum et al. 2017; Rosdahl 2014).

Vocational education has traditionally been looked upon as a training program with little need for literacy skills, and few studies from a Danish perspective have investigated or challenged this belief. Two studies have, however, investigated the texts used in the vocational training programs in Denmark and found that they are often complex and multimodal. One of these studies developed a genre perspective of the texts from the carpenter area (Buch 2015; Kabel et al. 2009). Teachers in the vocational training programs in Denmark have little knowledge of the complexity of the texts used in their teaching programs. International studies support this finding and emphasize that vocational training is a complex area in which to teach literacy because it covers many occupational fields (Kabel et al. 2009; Rauner & Maclean 2011). These vocational texts are, as I will show in this article, complex in both their genre and lexicogrammar. It is therefore important to gain more knowledge of the texts from the vocational training programs through conducting thorough analyses.

In this article, I will therefore investigate how a text analysis based on Systemic Functional Linguistics (SFL) and the developments by Jim Martin and David Rose (2011) can provide insight into these texts and their complexity, exploring the text elements and their roles, the challenges these elements provide for struggling readers, and the sender-receiver relationship. On the basis of these analyses, I will discuss how this knowledge can strengthen students’ literacy development and where such training can best be provided.

2. Theoretical framework

In this section, I will present the theory behind SFL followed by its application in multimodal analysis. Finally, I will present the definitions of the genres and text types used in the VET programs.

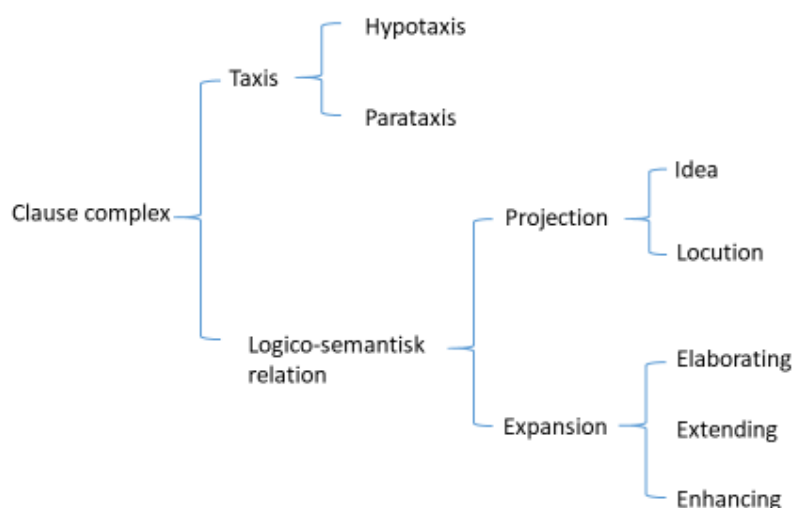
2.1 Systemic Functional Linguistics

Systemic Functional Linguistics (SFL) is a social semiotic linguistic theory focusing on the communication function of language, meaning that the focus is on the creation of meaning in a cultural and social context rather than on the structure of the text. M.A.C. Halliday is said to be the creator of SFL, which was inspired by other linguistic theories, such as those by Firth, Hjelmslev, and the Prague School (Smedegaard 2002). In SFL, language is seen as a choice from a system of language, and the text and the language system are seen as interdependent. In the dichotomy of Saussure, distinguishing between “langue” as the system of language and “parole” as the spoken language (Saussure & Engler 1967), Halliday views langue and parole as interdependent (see Halliday & Matthiessen 2004). In addition, context is an important part of the linguistic model, which is complex and also includes semantics and grammar, called lexicogrammar, and phonics. Since these parts of the linguistic model are considered strata, language is thus considered to be stratified. The

relation between the strata is described by the term “realization.” In SFL, language is seen as stratified in *expression*, containing the phonics and phonology stratum, and *content*, containing the lexico-grammatical and semantic stratum and the stratum of context, which means that the strata *realize* each other (Buch 2015: 21; Halliday & Matthiessen 2004). The relation between the system of language and concrete instances of the text is called “instantiation” (see e.g., Hasan 2009: 169).

SFL can be used to analyze modes of communication through the lenses of three metafunctions: ideational, interpersonal, and textual, which typically realize the field, tenor, and mode, respectively (Halliday 1978; Halliday & Matthiessen 2004; Martin 1999). Field refers to what the communication is about, tenor denotes who is communicating, and mode indicates the mode of communication (Hestbæk Andersen & Smedegaard 2005). The ideational metafunction construes experience, the interpersonal metafunction enacts the relationship between the participants in communication, and the textual metafunction facilitates the other two. The ideational metafunction is subdivided into the logical and the experiential components (Halliday & Matthiessen 2004: 30). Under the logical component, the relation between clauses is described through taxis and logico-semantic relation, the so-called “system of the clause complex” (Halliday & Matthiessen 2004: 373). Taxis analysis is not used in this article and will, therefore, not be discussed further. Logico-semantics is divided into projection and expansion; projection is further divided into idea and locution, and expansion is subdivided into elaboration, extension, and enhancement, and deals with the fundamental relation between clauses (Figure 1). These are the theoretical lenses through which one can analyze language and, as McCabe, O'Donnell and Whittaker, and O'Halloran point out, with an increasing need also for multimodal analyses (McCabe, O'Donnell & Whittaker 2009; O'Halloran 2009). When Martin and Rose (2011) and Kress and van Leeuwen (2006) used SFL for their analysis of multimodal texts, they drew very clearly on this theory about the clause complex, thus using the same concepts in describing the relations between the elements (Kress & van Leeuwen 2006; Martin & Rose 2011). Since the different modal elements of the text are all equal and important parts of the communication, the use of SFL in multimodal analysis can reveal the communicational aspects of the text.

Figure 1: The system of the clause complex (own model with inspiration from Halliday & Matthiessen 2004).

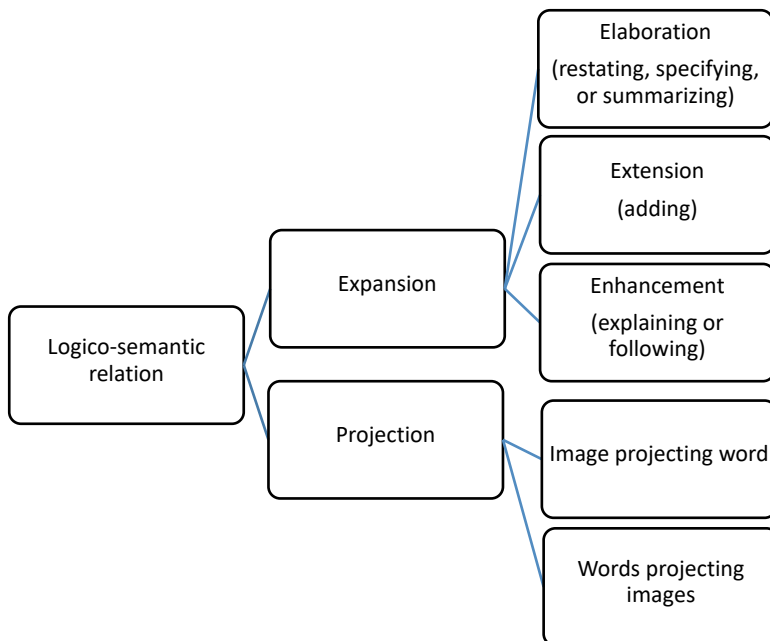


2.2 Multimodal aspects of using SFL

Martin and Rose (2011: 321) defined the use of multimodal elements in text as a “modality of communication”, and Boeriis (2009) described it as a text with several semiotic resources. According to Kress (2012, 2014), meaning is construed through language and other semiotic expressions, and one must analyze the means of representation in the text to reveal the way meaning is construed. In this way, Kress broadens the concept of text; he understands texts as modules or blocks of meaning and states that the coherence between the modules or blocks is made by visual rather than linguistic elements (Kress 2014). He thus points to the importance of the visual elements and of understanding the multimodal features of texts. The importance of the blocks can be described by the term “salience”, which incorporates the *hierarchy of importance* within and between elements: “Salience can create a hierarchy of importance among the elements, selecting some as more important, more worthy of attention than others” (Kress & van Leeuwen 2006: 201). Salience is about the size, position, color intensity, the use of light and shade, and the functions of the elements. Salience is also about the way the elements draw the attention of the reader, and an analysis of salience reveals what attracts the readers’ attention and why the element does so, thus focusing on how the text creates its meaning (Kress & van Leeuwen 2006). An element can be described as having high, medium, or low salience, and the term can be used to describe the composition of an illustration or the relation between different textual and visual elements on a page. According to Kress and van Leeuwen (2006), the interpretation of salience is subjective; it depends on the interpreter, who takes as a starting point their cultural understanding and use of culturally acknowledged symbols. Still, elements with high contrast placed at the top or left side of the page often have higher salience than elements placed at the bottom, and images of humans often have high salience.

Kress and van Leeuwen (2001) describe multimodal analysis as a part of the content stratum. An analysis must therefore contain the meaning-making through the lexico-grammatical features and other semiotic elements (Buch 2015), and thus a multimodal analysis investigates the relation and organization of the elements or blocks of texts. This organization involves an analysis of the logico-semantic relation regarding expansion, which is subdivided into elaboration, extension, and enhancement, or projection, which is subdivided into an image projecting words or words projecting an image (Figure 2). These choices are based on the same theory as SFL regarding the relation between clauses (please see above).

Figure 2: Model of the possible relations between elements in multimodal texts (own model after Kress and van Leeuwen 2011).

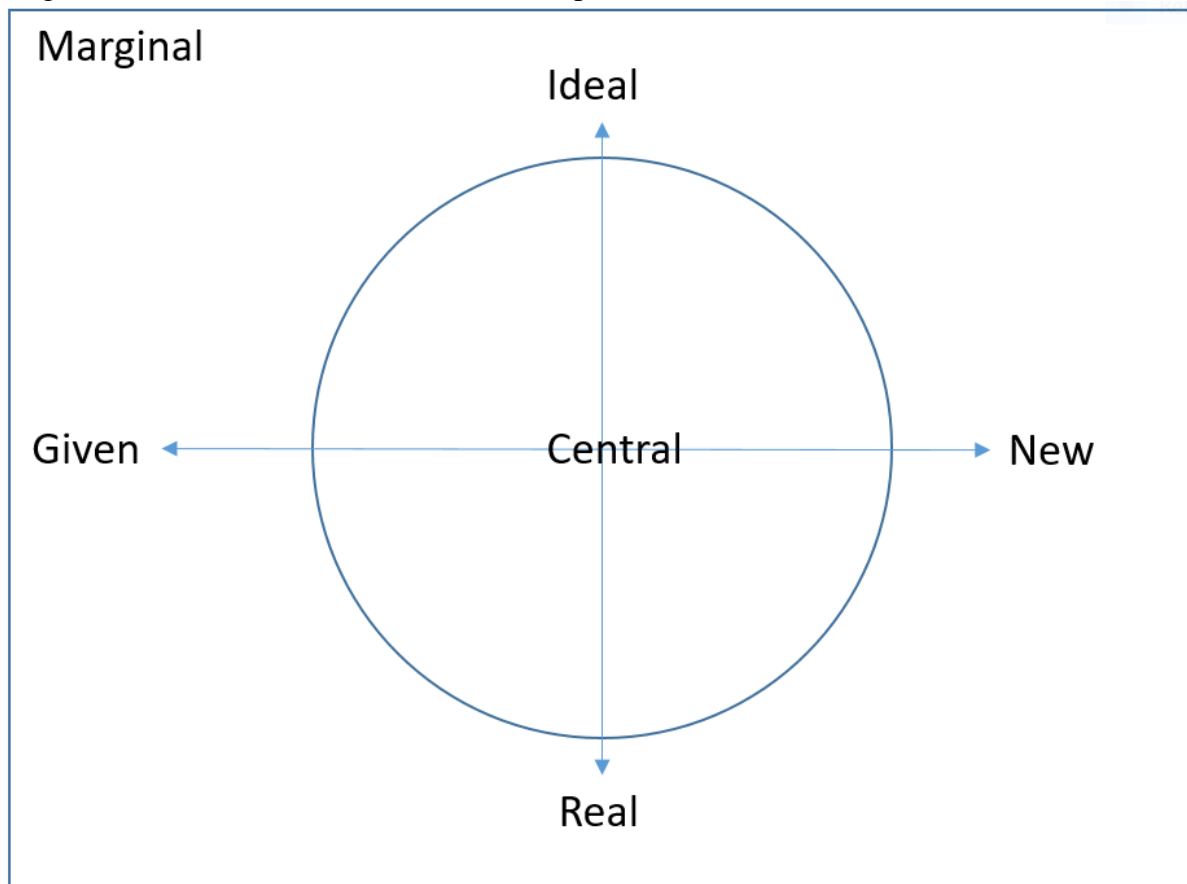


As a supplement to these categories, Martin and Rose (2011) suggest analyzing the image-text identification and image-text boundary. Image-text identification is about how the text and images accompany each other, and the image-text boundaries are seen as either weak or strong: “Images may intrude into text, and text may overlap images, or there may be a strong demarcation” (Martin & Rose 2011: 328).

Kress and van Leeuwen (2006) present an analysis of distribution, e.g., the organization of the elements on a page, which can be either horizontal, vertical, or central. A horizontal distribution is subdivided into Given or New, a vertical distribution is subdivided into Ideal or Real, and a central distribution is either Central or Marginal (Figure 3). Given refers to the already-known information, whereas New is the unknown or the not yet known, and maybe the difficult and incomprehensible. Regarding the vertical distribution, Kress and van Leeuwen (2006) found the following: “The upper section tends to make ‘emotive’ appeal and show us, ‘what might be’; the lower section tends to be more informative and practical, showing us ‘what is’” and “... what has been placed on the top is presented as Ideal, what has been placed at the bottom as the Real” (Kress & van Leeuwen 2006: 193 (both)).

According to Kress and van Leeuwen (2006), the elements placed in the Ideal category are often given the most salience.

Figure 3: Distribution (own model, with inspiration from Kress & van Leeuwen 2006).



2.3 Texts and genres in Vocational Education


In the vocational education and training (VET) programs, the genres used can be identified as macro genres, and those used in the carpenter education program are “teacher-produced learning texts”, “specialized texts”, and “teaching regulative texts” (Buch 2015). Specialized texts are texts that are meant to be used in the domain of the vocational working area, and are also referred to as workplace texts (Karlsson 2006), which, in this case, are designed for the carpenter job. They are written specifically for carpenters or others acting in the domain and are not aimed at supporting reading or learning in a regular school. Rather, they require deep knowledge of the particular domain, which includes the sayings, doings, and beings of the specific domain, using the entities described by James Paul Gee (Gee 2012). Teacher-produced learning texts are texts made by the teacher, using elements from several specialized texts and rewriting to make them linguistically easier and shorter. Finally, teaching regulative texts are texts from the school domain, e.g., tests, tasks, or quizzes or other texts with a controlling function. Also, ordinary textbooks are used, although seldom in the carpenter education program (Buch 2015).

3. Method and data

Using qualitative document analysis based on the framework from SFL, I will give an example analyzing a specialized text from a vocational training program in Denmark. The text is a poster that was used in a vocational training program for carpenters at a Danish VET school during the winter of 2011 (Figure 4). Such texts are often distributed to construction sites to support workplace safety (Buch 2015). The poster was originally meant to inform workers on the construction site, but it came to be used as an informational text in the carpenter-training program on the subject of “workplace safety”. Workplace safety is an obligatory subject for the carpenter students in their first year, as an

independent subject and as part of the practical subjects during the rest of their education. The poster text was chosen as a representation of a text from one commonly used genre in the vocational education programs. The headline at the top of the poster is “Safety Equipment”, and the poster describes the selection of safety equipment items and legislation. One of a series of posters about workplace safety (see Figure 4), the poster is produced and distributed to workplaces by BrancheARbejdsmiljørådet for Bygge og Anlæg [Work Safety Council for Building and Construction (BARBA)]. The teacher used the poster text to introduce, describe, and discuss the different types of concrete safety equipment found and used in workplaces. Being used as a school text completely changes the function of the text. Normally, it would hang on the wall and probably either not be noticed or be consulted only for specific knowledge when needed. It was not intended to be reviewed completely. The teacher did not mention this change of context to the students, which made it even more difficult for struggling readers to fully understand the text.

Figure 4: Text about workplace safety equipment from a carpenter school, collected in 2011 (with permission from the author. My own translation).



SAFETY EQUIPMENT

Beskyttelseshjelm

- Klemningsfare
- Styrkende/stødende genstande
- Farver/synlighed

Øjenværn

Påvirkning:

- Mekanisk (fx splinter)
- Kemisk (fx formolie, saltsyre og cementslam)
- Lys (fx svejsning)

Handsker

- Slid
- Vibrationer
- Temperatur
- Kemikalier

Arbejdstøj

- For stort/småt
- Beskyttelse mod:
 - partikler
 - kemikalier
 - brand
 - støv
 - træk
- Kulde/varmeisolerende
- Reflekser

Faldsikring

- Mastearbejde
- Standsning af fald
- Sænkning/løft af personer
- Hindring af fald

Høreværn

Åndedrætsværn

- Partikler
- Mere forurenet - der kan være iltmangel
- Risiko for iltmangel (<17%)
- Gasser og dampe

Fodbeklædning

- Tåhætte
- Værnesål
- Skridhæmmende
- Ankelpuder
- Kemikaliebestandig
- Gnistsikker
- Isolerende
- Brandhæmmende

Du skal anvende personlige værne-midler, når det ikke er muligt at indret-te arbejdspladsen helt sikkert, ændre arbejdsprocessen, udskifte det farlige eller fjerne faren, hvor den kan opstå

Besides the text example, I drew on observation data from the same carpenter education program, having observed all the lessons covering workplace safety during four weeks (16 lessons),

and the same lessons in an education program for social workers (8 lessons). These data consisted of field notes, sound recordings of the lessons, and photos. The observation data were supplemented by data from an interview with the teacher of the carpenter education program. In addition, I drew on my deep analysis of all the other texts from the teaching of workplace safety in both VET programs. In both cases, the teachers conducted traditional teaching by using the texts as a basis for teacher explanations of the content and IRE structure (Initiation-Response-Evaluation) (Sinclair & Coulthard 1975).

3.1 Model of analysis

Based on the theoretical framework, the analysis will focus primarily on the horizontal, vertical, and central distribution supplied by the logico-semantic relation, i.e., the expansion and projection. Finally, the image-text boundary and identification will be touched upon. The analytical framework is as follows:

Information distribution

Horizontal (Given–New)

Vertical (Ideal–Real)

Central (Central–Marginal)

Logico-semantic relation

Expansion (elaboration, extension, enhancement)

Projection (idea, locution)

Boundaries (strong–weak)

Identification

4. Analysis and findings

The text on the poster presents several modal elements, with a human figure in the Central position, supplemented by eight blocks of text in the Marginal position (Figure 4). The human figure in the Central position is wearing many different types of safety equipment and is drawn in a cartoon style with bright colors. These colors suggest that the human figure in the center is used to attract the reader's attention, as an eye-catcher. The cartoon figure makes the text seem less institutionalized.

Seven of the blocks in the Marginal position have the same visual appearance, each with a heading featuring a piece of safety equipment, such as a protective helmet or a respiratory protective device (the eighth block is the one in the Ideal-New-Marginal position, picturing another poster about noise). Underneath the heading in each text block is a list of items describing how the device is used, without using verbs; this implies that the readers already know how to wear the devices and that they are meant to protect them (Figure 4). For example, terms such as *wear and tear*, *vibrations*, *temperature*, and *chemicals* are listed beneath the protective equipment *gloves*, but the text does not say that gloves protect against these hazardous circumstances. The list style shows the text as more of a memo than as explanatory or informational text.

At the bottom of the page, in the Marginal and Real position, there is a paragraph of text presented on a light blue background. The text says (author's translation): "You must use personal safety equipment. When it is not possible to organize the workplace safely, change the work procedures, substitute the dangerous material, or remove the danger where it arises" (Figure 5). The light blue color ties the text to a small man dressed in blue clothes in the Marginal-New-Real position. This man is standing with his right hand positioned as though he is presenting the text, in a pose that attracts the reader's attention. I interpret this smaller figure as talking to the reader through the different blocks or elements of meaning (Figures 4 and 5). Since the light blue color also ties him to the logo of the sender of the text, which is an organization that works with workplace safety, called

BARBA, I consider that he is speaking on their behalf. This figure serves the purpose of personalizing the anonymous organization while attracting the attention of the reader. This personalization effect is further underlined by the light blue color used in a speech balloon right above him in the Marginal-New-Real position and also by the speech balloon in the Marginal-Given-Ideal position. These two speech balloons project logico-semantic relations and thus show that all the similar text elements in the Marginal position can be understood as such. Since the smaller figure in blue is in the foreground in relation to the textual elements, he functions as an element projecting relevant information from both the text blocks and from the eye-catching figure in the Central position (Figure 4).

Figure 5: The Marginal-New-Real positioned man (close up of Figure 4).



Regarding the relation between the elements, the text blocks function as elaborating, extending, and enhancing elements in relation to the center figure by specifying in which situations the equipment worn by this figure can be useful. In addition, the text blocks extend by adding new information, such as what safety shoes consist of, and they enhance by explaining *why* to use the equipment. As an example, the center figure wears anti-fall protection and, in the text block in the Marginal-Ideal-New position, the term “anti-fall protection” is repeated. The word beneath the headline underlines where to use this protection, for example when lowering and lifting people, and why to use it, for example to stop or hinder a fall (Figure 4). The where and whys are mixed unsystematically among the items in the list.

The text blocks are inconsistent; some state what the headline’s protection gear protects against, others how to use it, and others why to use it, sometimes in a mix of more than one function, which complicates the reading of the text, especially for struggling readers.

The main heading is in the Given-Ideal position, indicating that this is not new information but instead well-known information to be remembered. This heading location in the Given-Ideal position can be interpreted along with the green label in the Given-Real position, which bears the name of the organization, BARBA, whose role is to protect workers and support the development of workplace safety. The use of personal safety equipment is seen as ideal, something workers should always use, and BARBA is seen as the guarantor that they will carry this out in real-life situations. Having BARBA in the Given-Real position also indicates the expectation that readers already know about the presented information (Figure 4).

The use of the color blue supporting the word block written in bold text between the Given and New positions realizes a directive on how and when to use the personal safety equipment. The blue color stretches from the powerful figure in the foreground of the New-Real position into the text, thus giving it strength. The bold text further underlines this strength.

Further, the use of the blue color supports the focus on the figure in the center position. The blue background behind the text in the top-left, the Given-Ideal position, and the bottom-right, the New-Real position, creates an invisible diagonal from top to bottom, following the reading direction of European writing and crossing through the central figure, thus giving it more salience. At the same time, it creates a strong connection between the Given-Ideal and the New-Real positions that can be interpreted as a development from the unknown to the known through the use of the text. Studying the information on the poster gives the reader knowledge and reinforces the message given by the

sender BARBA in the Given-Real position.

The use of bright colors on the figure in the Central position gives him additional high salience, functioning as an eye-catcher; however, the smaller figure in the foreground of the New-Real position also has high salience because of the combination of the bold text and the light blue color. These figures highlight what is important for the readers to focus on (Figure 4). BARBA is an influential institution with the power to push through legislation, and, as such, it functions as a connection between the lawmakers and the workers. This power is underlined by the use of distribution and relation between the elements. BARBA is thus humanized and empowered, and it speaks with the power of legislation.

The message of the entire text is powerful and is supported by the use of different modalities that ensure the reader understands what to use and when and why to use it. The poster functions as a kind of memo, but it is used at the vocational school as informational text. The use of the text as informational is supported by the way the teacher used it, which was as a starting point from which to engage in further discussion of the why, when, and how questions in safety equipment use. All the text elements provided support for the knowledge he imparted. However, the students never actually read the text or other texts used during the lessons (Buch 2015). As the teacher pointed out, they hardly ever read texts, so he had to make sure everything was repeated orally.

Finally, the photos in the top Ideal position and the text-sender-complex in the bottom Real position function as a framing for the written message. Looking at these items in terms of the boundary between the different elements, the top boundary is hard, although softening lines have been used, creating an unclear connection to the rest of the text. These photos show different workplaces and situations for the use of workplace safety equipment and thus signal that the message of the text is directed toward a variety of fields and skills. In contrast, the text-sender-complex in the Real position is clearly connected to the rest of the text through the use of the blue color. This shows that the sender BARBA is connected to the overall message as the powerful institution involved deeply in its purpose and content, while the different workplaces are framing the message as receivers.

5. Discussion

The analysis shows that understanding this kind of text is complicated and requires a variety of multimodal literacy skills. In primary education, grades 0–9 (and the optional grade 10), students learn to read multimodal texts using different kinds of school books (Callow & Buch 2020); however, it is unclear whether the students are able to transfer their knowledge from rather uncomplicated schoolbooks to texts involving complicated meaning-making through different modalities (Bransford, Brown & Cocking 2000; Marton 2006). Research shows that transferring knowledge from one discourse to another can be a challenge for students in general (e.g., Dewitz & Graves 2014; Dewitz, Jones & Leahy 2009). To support the reading and understanding of this kind of specialized, multimodal text, several actions could be taken. For example, schools in primary education, grades 0–10 in Denmark, could incorporate new types of texts from areas outside of the schools and teach literacy to students in the whole community, thus supporting their choices in further education. If schools fail to do this, large groups of students in vocational education and training programs will be left behind because they have not been taught the literacy skills necessary for their education. Basic literacy training is meant to be part of primary education, which is supported by the Organisation for Economic Co-operation and Development (OECD) (OECD 2010).

The concern that students need to learn about multimodality is supported by Kress and van Leeuwen (2006), who stated that meaning is created through several modalities besides the written or oral modes, and therefore schools must teach students literacy that focuses on all modalities in the text in order to learn multimodal literacy. However, if transferring knowledge is too complicated, it is a dilemma whether one should teach students the literacy necessary for VET in primary education or not. Besides, using texts from out-of-school scenarios without the full context of meaning, in other

words, decontextualized (Lassen 2009), would likely be a challenge for many students, not the least students with poor literacy skills.

Another way of resolving this dilemma is to teach literacy to students in vocational education and training by focusing on the texts and genres in their specific area, thus supporting their reading of learning materials and other texts suited to their environment (Buch 2015). This approach is highly supported by OECD in its report on literacy and the job market (OECD 2010), which recommends that VET students receive literacy training and develop their literacy competencies. This would result in better overall literacy skills for the population as a whole, since now, those from the VET leave school with poor literacy skills, which is not covered by later in-service training that often aims at the development of specific competencies. Furthermore, the economic advantages for both society and companies are highlighted (Kuczera, Bastianić & Field 2018; OECD 2010). Other benefits should be highlighted as well, such as the necessity for each individual to possess appropriate literacy skills in order to be included in democratic processes and to realize one's full potential in life. Better literacy skills also expand educational options for later in life (OECD 2010). Studies also show that assisting students to improve their literacy skills supports their vocational education and training as well as prevents student drop-out (OECD 2010).

In the other Nordic countries of Sweden and Norway, the literacy demands and literacy expectations after fulfilling the VET are the same as for high school students, and the idea is that students will gain the same literacy skills no matter what their education after primary education (OECD 2010). In Denmark, however, the expectations of VET are markedly lower than in high school (Retsinformation.dk [Lawinformation] 2016).

Another argument for teaching literacy and multimodal literacy in VET programs is that it can be done within the context of a particular subject and skills training, which seems especially to support boys' interests in learning literacy skills and thereby their overall literacy development (OECD 2010). Teaching literacy in a meaningful context is also a way of teaching literacy in a social constructivist way, which supports contemporary learning theories as well as ensures that texts are not decontextualized (Lassen 2009).

Whether the choice is to expand literacy training in primary education or in the VET programs, both methods require a further analysis of the texts from the vocational education and training schools as well as from workplaces. However, teaching students in VET programs new literacy skills calls for innovative and effective methods. The texts used must be read and analyzed not only to investigate their meaning but also to determine how the meaning is construed. This approach calls for an upgrade of teachers' competencies (Simona 2015).

Using SFL as a tool for this analysis supports the understanding of the meaning-making of different elements. Even though SFL is a complex model based on a complex theory, with the simplified tool shown here, it is possible to give a detailed text analysis, which emphasizes that using SFL can support students in vocational education and training to gain improved literacy competencies. Using SFL also focuses on the sender-receiver positions and the power distribution between them and shows who is empowered or not. Stronger literacy competencies can also support the students' understanding of the distribution of power in society, which can help them to understand who is in a position to give orders, which orders they should be expected to follow, and who they can trust and depend on.

Nevertheless, it will be a challenge for many teachers in the vocational programs to learn complex literacy learning, particularly for the teachers of practical subjects, who find it difficult to learn and teach new literacy strategies (Illum et al. 2017). On the other hand, former studies have shown that developing the ability to teach literacy skills among the teachers in the VET programs is considered among the most important teacher training aspects to focus on (Simona 2015).

Further research in this vocational and training literacy area is needed to support all students to develop their literacy skills, as a thorough and all-encompassing literacy education indicates care and

attention directed at all students.

References

- Allerup, Peter, André Torre & Vibeke Hetmar (2012). *LEKS-Longitudinal*. København. Retrieved from http://edu.au.dk/fileadmin/edu/Udgivelser/LEKS_2012.pdf
- Boeriis, Morten S. (2009). *Multimodal Socialsemiotik & Levende Billeder* [Multimodal Social Semiotic & Living Pictures] Institut for Sprog og Kommunikation. Syddansk Universitet, Odense.
- Børne- og Undervisningsministeriet [Ministry of Children and Education] (2018). *Skolestart* [Starting School]. Retrieved November 11, 2019, from <https://www.uvm.dk/folkeskolen/fag-timetale-og-overgange/skolestart-og-boernehaveklassen/skolestart>
- Bransford, John D., Ann L. Brown & Rodney R. Cocking (Eds.) (2000). *How people learn: brain, mind, experience, and school*. Washington DC: National Academy Press.
- Buch, Bettina (2015). *Tekster og genrer på erhvervsuddannelserne - med særligt henblik på overgangen fra grundskole til erhvervsuddannelse* [Texts and genres in vocational education - focusing on the transition from primary education to vocational training]. Aarhus Universitet/Aarhus University, Copenhagen. Retrieved from <https://danskaadan.wordpress.com/ph-d-afhandling/>
- Callow, Jon, & Bettina Buch (2020). 'Making meaning using a metalanguage'. *The Reading Teacher*, (1): 669 - 677.
- Danmarks Statistik [National Statistics]. (2018). *Frafald fra start på grundforløbet* [Drop out rates from the beginning of the primary course].
- Dewitz, Peter & Michael F. Graves (2014). 'Teaching for Transfer in the Common Core Era'. *The Reading Teacher*, 68(2): 149–158. <https://doi.org/10.1002/trtr.1290>
- Dewitz, Peter, Jennifer Jones & Susan Leahy (2009). 'Comprehension Strategy Instruction in Core Reading Programs'. *Reading Research Quarterly*, 44(2): 102 - 126
- Egelund, Niels (2008). *PISA og ungdomsuddannelserne 2006 - kompetencer hos 16½-årige elever i fire typer af danske ungdomsuddannelser foråret 2006* [PISA and secondary education 2006 - competencies in 16½ year old in four types of Danish secondary educations]. Copenhagen: Danmarks Pædagogiske Universitetsforlag.
- Gee, James P. (2012). *Social linguistics and literacies: ideology in discourses* (4.). London and New York: Routledge.
- Halliday, M. A. K. (1978). *Language as social semiotic: the social interpretation of language and meaning*. London: Edward Arnold.
- Halliday, M. A. K. & C. M. I. M. Matthiessen (2004). *An introduction to functional grammar*. London: Hodder Education.
- Hasan, Ruqaiya (2009). 'The place of context in a systemic functional model'. In M. A. K. Halliday & J. Webster (Eds.), *Continuum companion to systemic functional linguistics*. . New York: Continuum.
- Hestbæk Andersen, Thomas, & Flemming Smedegaard (2005). *Hvad er meningen?* [What is the meaning?]. *Studies in literature; vol. 46*. Odense: Syddansk Universitetsforlag.
- Illum, L., P. H. Lützen & J. Spangenberg (2017). *Læsning og læsevejledning på EUD* [Reading and Reading counselling in VET]. Copenhagen: Videncenter for Læsning.
- Jørgensen, Christian Helms (2011). *Frafald i erhvervsuddannelserne* [Drop out in vocational education] (Vol. 1. udgave). Roskilde: Roskilde Universitetsforlag.
- Kabel, C., S. T. Gissel, D. Carlsen & EMU. (2009). *Læsbare læremidler, EUD* [Readable learning materials, VET]. København: Nationalt Videncenter for Læsning og læremiddel.dk.
- Karlsson, Anna-Malin (2006). 'En arbetsdag i skriftsamhället: ett etnografiskt perspektiv på skriftanvändning i vanliga yrken' [A working day in the linguistic society: an ethnographic

- perspective on using literacy in everyday jobs]. In *Skrifter utgivna av Språkrådet*, 2. [Stockholm]: Språkrådet.
- Kress, Gunther R. (2012). 'Materialiseret meningsskabelse: tanker om literacy, læsning og skrivning i konteksten af multimodal kommunikation' [Materialized meaning making: thoughts on literacy, reading and writing in the context of multimodal communication]. *Viden Om Læsning*, 12(10): 4–15.
- Kress, Gunther R. (2014). 'Reading, Learning and "texts" in their interaction with the digital media'. *Viden Om Læsning*, 10(16): 56–67.
- Kress, Gunther R., & van Leeuwen, Theo (2001). *Multimodal Discourses*. London: Arnold.
- Kress, Gunther R., & van Leeuwen, Theo (2006). *Reading images: the grammar of visual design*. London: Routledge.
- Kuczera, M., Bastianić, T., & Field, S. (2018). 'Improving literacy and numeracy in vocational education and training (VET) programmes in Israel'. In *Apprenticeship and Vocational Education and Training in Israel*. Paris: OECD Publishing. <https://doi.org/10.1787/20777736>
- Lassen, Inger (2009). 'A Discourse Analytical Study of Decontextualization and Literacy'. In A. McCabe, M. O'Donnell, & R. Whittaker (Eds.), *Advances in Language and Education*. London: Continuum. 217–236.
- Martin, J. R. (1999). 'Modelling context: a crooked path of progress in contextual linguistics'. In M. Ghasessy (Ed.), *Text and context in functional linguistics*. Amsterdam: J. Benjamins. 25–62.
- Martin, J. R., & Rose, D. (2011). *Working with discourse: meaning beyond the clause* (Vol. 2. ed., re). London: Continuum.
- Marton, Ference (2006). 'Sameness and Difference in Transfer'. *Journal of the Learning Sciences*, 15(4): 499–535.
- McCabe, A., M. O'Donnell & R. Whittaker (2009). *Advances in Language and Education*. London: Continuum.
- Ministry of Children and Education. (2019). *Vocational education and training in Denmark*. Retrieved December 13, 2019, from <http://eng.uvm.dk/upper-secondary-education/vocational-education-and-training-in-denmark>
- O'Halloran, K. L. (2009). 'Systemic Functional Multimodal Discourse Analysis (SF-MDA) Approach to Mathematics, Grammar and Literacy'. In A. McCabe, M. O'Donnell & R. Whittaker (Eds.), *Advances in Language and Education*. London: Continuum. 78–101.
- OECD (2010). *Learning for jobs. Synthesis Report of the OECD Reviews of Vocational Education and Training*. OECD Publishing. <https://doi.org/10.4324/9780429434303-6>
- Peker, N. (2006). *Videre fra grundskolen - de unges uddannelse* [Carrying on from primary education - education of the youth]. Denmark: Danmarks statistik.
- Rauner, F. & R. Maclean (Eds.) (2011). *Handbook of Technical and Vocational Education and Training Research*. USA: Springer. <https://doi.org/10.1360/zd-2013-43-6-1064>
- Retsinformation.dk [Lawinformation] (2016). *Bekendtgørelse om grundfag, erhvervsfag og erhvervsrettet andetsprogsdansk i erhvervsuddannelserne* [Order about primary subjects, vocational subjects and vocational Danish as a second language in the vocational education]. Denmark: Retsinformation.dk. Retrieved from <https://www.retsinformation.dk/eli/lt/2016/683>
- Rosdahl, Anders (2014). *Fra 15 år til 27 år. PISA 2000-eleverne i 2011/12* [From 15 to 27 years. PISA 2000 students in 2011/12]. Copenhagen: SFI - Det Nationale Forskningscenter for Velfærd [National Center for welfare]. Retrieved from http://uvm.dk/~media/UVM/Filer/Udd/Folke/PDF14/Juni/140617_Fra_15_27_aar.ashx
- Saussure, Ferdinand de & Rudolf Engler (1967). *Cours de linguistique générale* (Édition cr). Wiesbaden: Otto Harrassowitz.
- Simona, Gabureanu (2015). 'Teacher Training for Embedding Life Skills into Vocational Teaching'. *Procedia - Social and Behavioral Sciences*, 180 (November 2014): 814–819.

<https://doi.org/10.1016/j.sbspro.2015.02.215>

- Sinclair, J. & R. M. Coulthard (1975). *Towards an Analysis of Discourse: The english used by Teachers and Pupils*. London: Oxford University Press.
- Smedegaard, Flemming (2002). *Verden i sproget: Transitivitet i dansk - en systemisk funktionel beskrivelse* [The world in the language: Transitivity in Danish - a systemic functional description]. 1. Afhandling. Odense.
- Statsrevisorerne [State auditors]. (2019). *Folkeskolens obligatoriske 9.klasseprøver* [The obligatory tests for grade 9]. Danmark: Rosendahls Lager og Logistik.
- Uddannelsesguiden [Education Guide]. (2019). *Eux* [Vocational education high school]. Retrieved December 13, 2019, from <https://www.ug.dk/uddannelser/artikleromuddannelser/omhvervsuddannelser/eux>
- Undervisningsministeriet [Ministry of Education]. (2017). *Datavarehus for erhvervsuddannelserne* [Data about Vocational Educations]. Retrieved February 20, 2017, from <https://www.uddannelsesstatistik.dk/erhvervsuddannelser>
- Undervisningsministeriet. (2018a). *Frafald og fuldførelse på erhvervsuddannelserne*. Danmark: Undervisningsministeriet.
- Undervisningsministeriet [Ministry of Education]. (2018b). *Klare mål 1: Flere skal vælge en erhvervsuddannelse* [Main Goals: More students should choose a vocational training]. Retrieved September 16, 2018, from <https://uvm.dk/statistik/erhvervsuddannelserne/klare-maal-for-eud-reformen/klare-maal-1-soegning-til-eud>